HP Series 200 Software — Solutions Waiting to Happen

Introduction

Powerful computers plus powerful software equals powerful results.

Nowhere is this "equation" more true than with the Series 200 personal technical computers from Hewlett-Packard. Based on the MC68000 microprocessor from Motorola, the Series 200 (Models 16, 26 and 36) convey all the power and resourcefulness of 16-bit computing while keeping size to a minimum — in fact, the Model 16 takes up little more space than an in-basket.

To this powerful hardware, HP adds Series 200 software. The result is a full range of solutions to your technical and management problems. Whether you're considering writing memos, interacting with an array of instruments or designing complex electronic circuits, HP Series 200 software can help you achieve your goals with a minimum of effort and duplication; the full experience of others, both within HP and outside, is at your disposal.
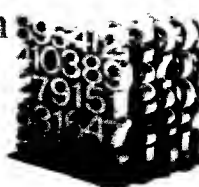
Not only will HP's Series 200 software run "stand-alone", but most will operate on the Shared Resource Management system, a network of Series 200 and other HP computers designed to share disc files and printers, thus making communications easier and resulting in tremendous cost savings.

In addition, our third-party software program, HP PLUS, is working with over 100 independent software suppliers to bring you even more solutions for the Series 200: word processing, spreadsheet planning aids, data base management, data communications, graphics, utilities, languages and much more.

All Series 200 software (except VisiCalc® and Context MBA™*) is written in BASIC and requires from 100 to 512K bytes of user-available memory (after language requirements have been met), plus necessary peripherals. Additional information on configuration and other technical matters can be obtained from your local HP sales representative.

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* VisiCalc® is a registered trademark of VisiCorp and Context MBA™ is a trademark of Context Management Systems. Neither require separate language systems to run.

Computation and Analysis

Numerical Analysis Library (HP 98821A)

This software package contains a large number of numerical analysis techniques written in the form of subroutines which may be added to application programs. Simple drivers for the subroutines are also included so that they may be used as stand-alone programs. Routines include: root finders, integration, ordinary differential equations, linear algebraic systems, Eigen Analysis, interpolation, and Fourier Analysis.

Statistics Library (HP 98820A)

The Statistics Library is an economical set of routines for data exploration, analysis and graphical display. It features a unified data base and easy-to-use graphics. Statistics Library is a multiple pack containing:

Basic Statistics and Data Manipulation — provides comprehensive summary statistics as well as routines for entering, editing, naming, recoding, sorting, storing, transforming, and listing data for statistical analysis by other programs.

General Statistics — contains parametric and non-parametric tests for single sample, paired sample, two independent sample and multiple sample data.

Statistical Graphics — contains nine routines for plotting statistical data: time plot, histogram, probability plots, x-y scatter plot, semi-log plot, log-log plot, xyz plot, and Andrews plot.

Regression Analysis — performs multiple linear regression, variable selection methods using stepwise, forward, backward or manual procedures, polynomial regression and residual analysis. It uses Marquardt's Method to fit non-linear models using up to ten parameters, and allows residual analysis.

Monte Carlo Simulation — includes advanced random number generators, random deviate generators for various statistical distributions and a series of tests which aid in the evaluation of simulation studies.

Analysis of Variance — a collection of routines for the analysis of statistically designed experiments. This pack includes procedures for factorial (up to four factors), nested, split-plot, one-way, two-way unbalanced and one-way covariate designs.

Principal Components and Factor Analysis — has routines for multivariate analysis, including principal components, factor extraction (principal axes or maximum likelihood method), factor rotations (orthogonal or oblique), and plots of case scores.
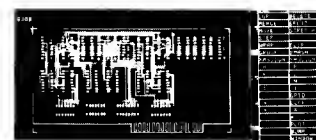
Statistics Library, Part I (HP 98820B)

A basic library of general statistics, Part I consists of Basic Statistics and Data Manipulation, General Statistics, Statistical Graphics and Regression Analysis.

Statistics Library, Part II (HP 98820C)

An advanced library of general statistics, Part II consists of Monte Carlo Simulation, Analysis of Variance, and Principal Components and Factor Analysis. Requires Part I to run.

Computer-Aided Engineering (CAE)

AC Circuit Analysis (HP 98825A)

With this pack you can quickly and easily model your AC circuits, accurately analyze their performance, and recognize design problems early in the development process — before making substantial investments in the project. You can use an interactive mode of operating to design optimal solutions — whether they involve amplifier design, power and transmission systems, control systems, instrumentation, filter design, spectral analysis, or environmental component design. With AC Circuit Analysis you can calculate the magnitude and phase of node voltage, branch voltage, and branch current. You can also compute branch

power and the ratios of any of these parameters. The pack performs these computations for resistors, capacitors, inductors, voltage controlled sources, and independent current sources. Magnitude, phase, time and impedance plots are available. These plots can include the effects of component tolerances.

Linear Systems Analysis (HP 98826A)

The Linear Systems Analysis package is capable of analyzing single input/single output linear systems. These linear systems can either be in the form of a control system block diagram, or a single transfer function in Laplace (S) notation. This pack can analyze block diagrams which have 20 or fewer blocks and nodes, and transfer functions to the order 19 or less.
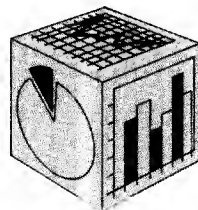
Digital Filter Design (HP 98828A)

This pack is an interactive, menu-oriented program for analyzing and designing digital filters. You can compute, tabulate, and plot filter coefficients, filter impulse responses, and filter frequency responses. Its design features include: automated design of Finite Impulse Response (FIR) and Infinite Impulse Response digital filters; frequency sampling design of FIR filters; least squares design of FIR filters; and transformation of analog systems to digital systems using impluse invariance, bilinear z, and covariance invariance.

Waveform Analysis (HP 98827A)

This pack offers you a wide range of applications for signal analysis in the time and frequency domains. In addition to electrical engineering applications, this pack gives you problem-solving capabilities in such areas as acoustics, oil exploration, engine vibration analysis, signal noise detection, and image processing. You can input a single function and analyze up to 8192 data points. Data you enter may be passed through a preprocessing filter you specify. It is then scanned, segmented into records, windowed, Fourier analyzed, correlated, and fitted to an auto-regressive model. All analysis is performed in an off-line mode.

Results such as power spectra, correlation functions, impulse responses, and nodal parameters may be listed or graphed on the internal CRT. Results may also be printed or plotted on an HP-IB compatible peripheral.

VisiCalc® (HP 98810A/11A)

VisiCalc is one of the most powerful and widely-used analytical tools available for personal computers. It allows the user to set up a form or worksheet, and quickly assess the impact of changes. Problems VisiCalc can help solve include: calculating sales projections, budgets, costs estimates, engineering changes, financial ratios, product pricing, and many other applications. HP 98811A is the VisiCalc version that runs on HP's Shared Resource Management (SRM) system.

Context MBA (HP 97038JA)

This versatile new software pack combines several valuable functions – spreadsheet modeling, graphics, word processing, data base management and telecommunication.* Because Context MBA is integrated in one package, you gain precious time to utilize elsewhere – you don't have to keep switching among programs or manually pass files back and forth, as the same commands activate each program. MBA also allows you to "window" several functions at the same time on the screen.

* Telecommunication available mid-1983.

Graphics Presentations (HP 98815A)

Overhead slides of bar charts, pie charts, line charts and text material can now be created easily and quickly using a Series 200 computer, the HP 7470 graphics plotter, and the Graphics Presentations software. This versatile pack allows you to create – on acetate or paper – professional quality presentation materials that will impress your audience and help hold their attention. You'll want to use this pack for all your customer presentations, management meetings, sales meetings, management reports and much more.

Forecasting (HP 98818A)

Objectively evaluating historical results and then accurately predicting future values are the bases for many important commercial and scientific decisions. The HP Forecasting application software package contains statistical routines that analyze and smooth initial raw data under a variety of assumptions to determine trends, seasonality, and random variations. In addition, five alternative forecasting methods are available for your applications.

Project Management (HP 98817A)

One of the most important phases of any project is the planning and organization of many interrelated activities. Network analysis is the method most often used to plan project management. Besides helping formulate the basic plan, network analysis permits following the project closely, anticipating problem areas, evaluating alternate plans, and achieving the economic and timing objectives of the project. The Project Management software incorporates these network methods: PERT – Program Evaluation and Review Technique; CPM – Critical Path Method; and MPM – Metra Potential Method.

For more information on these HP software packs, see your local HP sales representative. To order in the U.S., call:

Hewlett-Packard Company
Computer Supplies Operation (CSO)
(800) 538-8787
(In CA, AK or HI call (408) 738-4133 collect)

To order outside the U.S., contact your local HP sales representative.